



How is building volume measured for purposes of Signature and Seal requirements for commercial building plan submittal?

Answer: Volume (total). The "total volume" (cube or cubage) of a building is the actual cubic space enclosed within the outer surfaces of the outside or enclosing walls and contained between the outer surfaces of the roof and the underside of the lowest floor. The volume of structures without enclosing walls (canopies, roofed shelters and similar structures) will be computed by projecting imaginary vertical planes as the enclosing walls at the outer surface of the exterior supports or columns. For cantilevered structures with interior supports, the imaginary vertical planes will be projected at the farthest roof projection or overhang.

Note: The definition of total volume requires the cube of dormers, penthouses, vaults, pits, enclosed porches and other enclosed appendages to be included as a part of the cube of the building. It does not include the cube of courts or light shafts, open at the top, or the cube of outside steps, cornices, parapets, or decks. (October 2013)

SPS 361.02 What are some residential configurations that illustrate where the scope of the Uniform Dwelling Code stops and the Commercial Building Code applies instead, or vice versa? (July 15, 2008)

Answer: a. For 3 or more attached dwelling units, the CBC applies. Attached means some code-required construction (other than footings and their bearing material) is shared by the units.

Where 3 or more unattached dwelling units are each built with outside walls that comply with the UDC, the UDC applies throughout and the CBC does not apply, even if those outside walls are adjacent to or adjoin each other. If a non-code-required covering is added over the top of two such adjoining walls, the UDC would still apply.

Whether the dwelling units are owned by one party or are owned separately or are on separate lots does not affect which of the two codes applies.

In a building containing one commercial occupancy and one dwelling unit (the dwelling unit may be transient or nontransient) that is separated from the commercial occupancy by a fire wall, the CBC applies only to the commercial occupancy. Separating the two occupancies with a fire wall eliminates any effects of the dwelling unit on the commercial occupancy, and allows the dwelling unit to have unlimited area and height.

b. Where a building containing one commercial occupancy and one dwelling unit (the dwelling unit may be transient or nontransient) that is not separated from the commercial occupancy by a fire wall, two scenarios exist.

In one scenario where an occupancy separation is not provided, the effect of the dwelling unit on the commercial occupancy must be considered. For example, fuel-fired equipment and garages may need to be separated from the commercial occupancy in accordance with the CBC requirements for the commercial occupancy. And, the enclosing walls of the dwelling unit will be considered in determining the class of construction of the building for purposes of meeting the height and area limitations applicable to the commercial occupancy.

In the other scenario where an R-3 occupancy separation is provided, various trade-offs are allowed for the commercial occupancy.

- c. For a public or private family daycare serving up to eight children in a dwelling unit of a one or two family dwelling, the UDC applies throughout. Each family is permitted to operate separate family child care centers serving up to eight children and remain within the scope of the UDC throughout.
- d. For a vacation home that is rented to a large, single group of guests, the UDC applies.
- e. For one dwelling unit used for transient lodging, or two connected dwelling units used for transient lodging, the UDC applies. (July 15, 2008)

SPS 361.02 Which aircraft hangers are outside the scope of the Commercial Building Code?

Answer: An aircraft hanger which is not a public building or place of employment is outside the scope of the Wisconsin Commercial Building Code.

Just as with other detached outbuildings that are used in conjunction with a one- or two-family dwelling, an aircraft hanger which is detached from a one- or two-family dwelling and which is not used as a public building or place of employment is outside the scope of the CBC.

However, if a hanger that is attached to a one- or two-family dwelling is used as a public building or place of employment - such as for a commercial commuter or leisure airline service, or for commercial repair or service of aircraft - the hanger is then within the scope of the CBC. The only exception to that provision would be if the one- or two-family dwelling is located on a farm premises and the aircraft is used only for the operation of that farm. Under this farm operation exception the attached hanger would not be subject to the CBC provisions.

Aircraft hangers that are used as public buildings or places of employment, except those which are exempt under SPS 361.02 (such as those which are on farms and which are then used exclusively for farming) are within the scope of the CBC. (July 15, 2008)

SPS 361.30 , SPS 361.31, IBC 503.1.2 Where a group of small buildings utilizes the single building exception of IBC 503.1.2 for height and area limitation purposes, must all the buildings be considered as one for submittal or signing and sealing purposes?

Answer: No. The buildings remain separate buildings for the submittal and the signing and sealing requirements in SPS 361. The provision under IBC 503.1.2 allows those multiple buildings to be designed and constructed as if one building for those subjects that affect the height and area restrictions of the code. (June 30, 2008)

SPS 361.31, SPS 61.30, IBC 503.1.2 Where a group of small buildings utilizes the single building exception of IBC 503.1.2 for height and area limitation purposes, must all the buildings be considered as one for submittal or signing and sealing purposes?

Answer: No. The buildings remain separate buildings for the submittal and the signing and sealing requirements in SPS 61. The provision under IBC 503.1.2 allows those multiple buildings to be designed and constructed as if one building for those subjects that affect the height and area restrictions of the code. (June 30, 2008)

SPS 362.1101(1)(a) and IBC 1107.7.2 Do the operable control requirements found in SPS 362.1101(1)(a) overrule the general exception spelled out in IBC 1107.7.2 and require the controls on the upper levels of multistory units to be located at the heights required of Type B units?

Answer: No. The two provisions actually work together. The Wisconsin provision in SPS 362.1101(1)(a) that requires the circuit controls to follow Sections 309.2 and 309.3 of the ICC/ANSI A117.1 standard is not in conflict with the general exception for "multistory units" found in IBC 1107.7.2. That exception effectively excuses the multistory units, typically townhouses, from all the "Type B" requirements.

In summary, because the multistory exception in SPS 362.1107 waives all "Type B" requirements, the operable control requirements of SPS 362.1101(1)(a) are not applicable. (June 30, 2008)

SPS 362.1210, 362.2900, and 362.2902(6), IBC 2902.1, Table 2902.1, and 2902.3 In buildings or spaces that are required to be provided toilet facilities, must the toilet rooms be available to the public when the building or space is not open for use?

Answer: No. Most buildings and spaces provide their services during their business hours or hours of operation and there is no requirement that the toilet rooms remain available to the public when the business is closed for the day. Not so obvious are those buildings or structures that provide some walk-in or drive-in services that are available 24/7 even though the rest of the building or space, including the toilets within, is closed to the public. The best example of this would be the service stations that include a convenience store that has toilet rooms that are open during the normal operating hours of the convenience store, but not at all times the gas pumps are available for use. (September 1, 2011)

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SPS Table 364.0403 I have a space with a use that is not an exact match to one of the uses listed in SPS Table 364.0403. The most similar occupancy listed in SPS Table 364.0403 says "NR" in the exhaust column of SPS Table 364.0403, does this mean that no exhaust is required?

Answer: No. Although picking the most similar occupancy is appropriate for the "general people ventilation" of occupancies that relates to fresh outside air, the same is not true for exhaust. If there is not an occupancy match in Table 364.0403, refer to IMC chapter 5 to determine if exhaust is required and how much exhaust is needed to create the expected air quality.

Before Wisconsin adopted the IMC, almost all ventilation and exhaust requirements were contained in a table in SPS 364. The IMC breaks ventilation and exhaust requirements into two chapters. When it comes to exhaust, Table 364.0403 is not the driver to require mechanical exhaust ventilation except where there is an exact match. (May 24, 2011)

SPS 366.0704 - This Wisconsin amendment to the International Existing Building Code allows omission of the installation of sprinklers in inaccessible, combustible concealed spaces. Was the intent of this exception to apply to only Level 2 alterations as indicated by its placement, or to any alteration or change of use?

Answer: The intent was to allow this exception for any alterations, including those triggered by a change of use. (September 1, 2011)

SPS 366.0912, IBC 2902.2 - Exception 2, and IEBC 910 If in a commercial building that predates SPS 360 to 366 there is an alteration or use change to a space having a single toilet room, can the single toilet room still be permitted if the total occupant load it is serving exceeds the 15-person limit as specified in the

second exception of IBC section 2902.2?

Answer: Yes, some existing toilet rooms are allowed to use the 25-person limit previously assigned the single toilet room.

Since July 2002 the Wisconsin Commercial Building Code (WCBC) permits a single toilet room to serve spaces with a maximum employee load of 15 where the maximum total load (employees and customers) does not exceed 15 persons. In some ways this is more restrictive than in the past, but in other ways it is less restrictive. The current requirement is not retroactive, and the Division recognizes the validity of previous approvals.

When within a facility built under the pre-July 2002 edition of the WCBC, the division will continue to recognize the capacity for which the single toilet room was originally designed, provided the use of the space served by the toilet room does not change, or changes only to another use that was permitted to utilize that exception. In previous commercial building codes, a single fixture toilet room was permitted in lieu of separate a toilet room for each sex, when serving a limited number of people within a limited number of uses.

The following is a list of those limited uses:

- Adult Day Care
- Factory
- Repair Garage
- Business
- Mercantile
- Small Assembly Spaces like Ice Cream Parlors or Coffee Shops
- Service Garage
- Child Day Care
- Occupied Storage Garage
- Warehousing/Storage

The people limitation referenced in the earlier versions of the WCBC was a 25-person total capacity.

In summary, when uses change between those listed above, or when people loads change slightly due to alterations or subtle use changes, the listed uses are not required to add a second toilet room, provided the total number of occupants does not exceed 25 persons and the building was constructed prior to July 1, 2002. An alteration to the single toilet room likewise does not trigger a requirement to add a second toilet room. (September 1, 2011)

IBC Chapter 35, IBC 2603.4.1.5, 1508.1, and 1502.1 Can foam plastic insulation be used as one of the components within a roof assembly without the thermal barrier referenced in IBC section 2603.4.1.5 if the roof assembly has been tested and listed as FM Class 1, even if the testing was to FM 4470 instead of FM 4450?

Answer: Yes. The purpose of the thermal barrier is to prevent the foam plastic from becoming involved in the early stages of a fire within the building below. The Class 1 fire classification indicates that the assembly will not self-propagate if exposed to a localized fire exposure from the underside of the deck. That determination is based on Factory Mutual's construction materials calorimeter test, the test that is included as a part of both FM 4450 and FM 4470. If the roof assembly fails that part of the test, the roof assembly cannot be fire classified as Class 1. (July 31, 2008)

IBC 202 Is an occupied roof a story?

Answer: No. A roof, whether occupied or not, is not included in the definition of story in IBC 202. (June 30, 2008)

IBC 202, 2902.1, Table 2902.1, and 2902.3 Are toilet rooms required for buildings or structures that are not designed to be normally occupied?

Answer: No. Many buildings and structures are not designed as an "occupiable space" and accordingly need not include toilet rooms within them or adjacent to them. Included are buildings like mini-storage buildings,

parking garages, storage garages, or aircraft hangers. Some additional examples include those buildings or structures that provide a drive-in service like self-serve car washes or a walk-in service like ATM kiosks. (September 1, 2011)

IBC 303.1 For the requirements under IBC Chapters 3, 5, and 9, are conference, break, or training rooms that are exclusively for the employees in a nonassembly-occupancy building considered to be a separate, distinct A occupancy?

Answer: No. In addition to the allowance for accessory-use areas under IBC 508.2, for the purposes of IBC Chapters 3, 5, and 9, these rooms are considered to be accessory-use areas for the occupancy they serve. (September 1, 2011)

IBC 402 and IEBC 902.1 For a change of use of a tenant space within a mall, must the tenant space be separated from any other tenant spaces by a fire partition having a fire-resistive rating complying with IBC 708?

Answer: The requirement for separation of tenant spaces by fire partitions complying with IBC 708 applies only if the mall is a "covered mall building" designed to comply with IBC 402. Consequently, if the mall, or if a portion of the mall that is separated by fire walls into a "separate building," complies with IBC 402 and the designer chooses to use the covered mall option, fire partitions are required.

Otherwise, separation between tenant spaces may or may not be required, based on nonseparated-use or separated-use options that may be selected, and the corresponding code requirements. (June 30, 2008)

IBC 412.4.1 Do the setback requirements in IBC 412.4.1 for exterior walls of aircraft hangers apply either to an "imaginary line" between two buildings on the same property - as that line is referred to in the definition for fire separation distance in IBC 702 - or to an "assumed" property line between two buildings on the same property, as that line is referred to in IBC 705.3?

Answer: No. (September 1, 2011)

IBC 503.1 and 508.4.3 Specific to the construction of a new multi-story building that is to have multiple uses, how do the separated use provisions prescribed in IBC 508.4.3 interact with the story above grade plane limitations of Table 503?

Answer: This is an instance where the intent of the code is to allow the limitation for the building to be based on what might be viewed as a less restrictive provision for the various uses located within the building. The uses that have a more restrictive limit are in compliance by being restricted to the fire area that corresponds to the story above grade plane in the building that matches up with the limitation in Table 503. For example an un-sprinkled building of Type VB construction that is of a 2-story above grade plane configuration and 9000 SF per floor can be designed to include mixed uses of Mercantile (M) and Business (B) within. To comply, a horizontal fire barrier of 2HR fire-resistance rating must be provided between the first and second stories above grade plane and the M uses must be limited to locations on the first story above grade plane, or below, as specified in Table 503.1. The same methodology can be used for other mixes of use and classes of construction. (September 1, 2011)

IBC 503.1.2 , SPS 361.30, SPS 361.31: Where a group of small buildings utilizes the single building exception of IBC 503.1.2 for height and area limitation purposes, must all the buildings be considered as one for submittal or signing and sealing purposes?

Answer: No. The buildings remain separate buildings for the submittal and the signing and sealing requirements in SPS 361. The provision under IBC 503.1.2 allows those multiple buildings to be designed and constructed as if one building for those subjects that affect the height and area restrictions of the code. (September 1, 2011)

IBC 503.3 Is the area of an occupied roof counted as part of the building area, in determining the maximum building area permitted by IBC chapter 5?

Answer: No. The area calculations in IBC chapter 5 only include areas within stories, and a roof is not a story. However, the number of occupants for a roof must be included in establishing compliance with the means-of-

egress requirements for the building - and an occupied roof may trigger a requirement to provide fire sprinklers for the building, under IBC chapter 9. (June 30, 2008)

IBC 506.2.2 What are the required characteristics for a fire lane that provides access to an open space along the side of a building, in order to include that side's perimeter when calculating a building-area increase for frontage?

Answer: IBC Section 506.2.2 simply states that the open space "must be accessed from a street or approved fire lane." By definition in SPS 362.0202 (2) (a), "approved" means acceptable to the department, and the department will accept any proposed fire lane that is acceptable to the local fire department as meeting the requirements of IBC 506.2.2. (September 1, 2011)

IBC 506.3 Can an automatic fire sprinkler system that complies with NFPA 13R be used to obtain the building-area increase for sprinklering that is permitted by IBC chapter 5?

Answer: No. Only an NFPA 13 automatic sprinkler system can be used to obtain a building-area increase for sprinklering. (June 30, 2008)

IBC Table 508.2.5 and 508.2.5 Does IBC Table 508.2.5 require the creation of a furnace room for a furnace that has an input greater than 400,000 Btu per hour, or the creation of a boiler room for a boiler over 15 psi and 10 horsepower?

Answer: IBC Table 508.2.5 does not require the creation of a furnace room for a furnace of this capacity, but if a furnace room is provided for such a furnace, the room must either have a fire-separation rating of one hour or be protected by an automatic fire-extinguishing system. The same relationship exists for boiler rooms and boilers. If a boiler room is provided for boilers over 15 psi and 10 horsepower the room must either have a fire-separation rating of one hour or be protected by an automatic fire-extinguishing system. However, a manufacturer's listing for a specific furnace or boiler may include additional enclosure requirements.

See IMC section 202 for definitions of furnace room and boiler room. (September 1, 2011)

IBC 508.4.3 and 503.1 Specific to the construction of a new multi-story building that is to have multiple uses, how do the separated use provisions prescribed in IBC 508.4.3 interact with the story above grade plane limitations of Table 503?

Answer: This is an instance where the intent of the code is to allow the limitation for the building to be based on what might be viewed as a less restrictive provision for the various uses located within the building. The uses that have a more restrictive limit are in compliance by being restricted to the fire area that corresponds to the story above grade plane in the building that matches up with the limitation in Table 503. For example an un-sprinkled building of Type VB construction that is of a two-story above grade plane configuration and 9000 SF per floor can be designed to include mixed uses of Mercantile (M) and Business (B) within. To comply, a horizontal fire barrier of 2HR fire-resistance rating must be provided between the first and second stories above grade plane and the M uses must be limited to locations on the first story above grade plane, or below, as specified in Table 503.1. The same methodology can be used for other mixes of use and classes of construction. (September 1, 2011)

IBC 706.8 Where two buildings of different lengths are separated by a fire wall, can the length of the fire wall be extended to include the exterior wall of the larger building, such that I can exceed the 25 percent limitation on the length of openings located in the portion of the wall that is common with the smaller building?

Answer: No. The percentage of openings in the fire wall between the buildings is limited to the length of the common wall, plus the length of extensions that are required. Although we will allow the length used to determine the allowable openings permitted by IBC section 706.8 to include the length of required extensions, we will not allow larger extensions beyond those specified within IBC section 706.5. (September 1, 2011).

IBC 706 Can structural elements pass through the various rated fire-resistive rated wall assemblies (i.e. fire walls, fire barriers, fire partitions, etc.) that are required for other than class of construction purposes?

Answer: In short, NO for fire walls, and YES for all the other vertical assemblies. The only separation that prohibits other structural members from passing through/over or "penetrating" the separation is a fire wall [see IBC 706]. The restrictions relative to that thought are outlined in IBC 705.2. The performance language requires the wall to have sufficient stability to allow the collapse of the construction on either side without a collapse of the fire wall. That same performance language does not exist for exterior walls [IBC 705], fire barriers [IBC 707], shaft enclosures [IBC 708], fire partitions [IBC 709], smoke barriers [IBC 710], or smoke partition [IBC 711]. (September 1, 2011)

IBC 708.4, 711.3 and 717.4.2 Where a fire partition wall that is a dwelling unit or sleeping unit separation is terminating at the ceiling of a fire-resistance-rated roof/ceiling assembly as permitted by IBC section 708.4, does the roof/ceiling assembly have to carry a 1 hour fire-resistance rating?

Answer: No, a 1-hour assembly is not required between the unit and the attic or the unit and the sky. As the code does not assign a specific fire-resistance-rating for this condition, the fire partition wall is allowed to terminate at a ceiling membrane of a roof/ceiling assembly that is at least one layer of 5/8-inch thick drywall. As noted in exception 5, fireblocking or draftstopping of the space above the ceiling membrane is required as specified in IBC section 717.4.2. (September 1, 2011)

IBC 716.6.2.1 and IMC 607.6.2.1 Does the language "within the cavity of a wall", under the exceptions of sections IBC 716.6.2.1 and IMC 607.6.2.1 regarding ceiling dampers, preclude some or all of the exhaust duct system from being located within the cavity of a floor/ceiling assembly or roof/ceiling assembly?

Answer: No. The exceptions under IBC 716.6.2.1 and IMC 607.6.2.1 indicate that "Ceiling radiation dampers are not required where exhaust duct penetrations are protected in accordance with IBC section 713.4.1.2, are located within the cavity of a wall, and do not pass through another dwelling unit or tenant space."

In this context, the exhaust system and some or all of the associated ductwork are often located within the ceiling cavity. The reference to a "wall cavity" emphasizes the condition that the duct system for the exhaust system may not pass through the space of another dwelling or tenant. Ductwork within the cavities of horizontal and vertical assemblies separating dwelling units or tenant spaces are not considered to be "passing through" the space of another dwelling or tenant. (September 1, 2011)

IBC 903.2.9.1 and 903.2.10.1 When applying the fire sprinkler threshold requirements of IBC Sections 903.2.9, 903.2.9.1, and 903.2.10.1, what are the commercial trucks or buses referred to there?

Answer: Fire apparatus are not to be considered commercial trucks. The following is a listing of the types of commercial trucks or buses being referred to in IBC 903.2.9, 903.2.9.1, and 903.2.10.1:

- Semitrailer Tractors
- Trucks having a gross vehicle weight over 26,000 pounds
- Passenger vans or buses with a seating capacity of 16 or more. (September 1, 2011)

IBC 907.2, NFPA 72 s. 4.4.5 Does the requirement that fire alarm control units be protected mean that I must protect all annunciator panels if they include a reset function?

Answer: No. Although NFPA 72 requires the protection of a fire alarm control unit, we will not apply that requirement to an annunciator panel, even when the system can be reset from that panel. It has been determined that the best way to differentiate is to use the UL listing for the unit.

If the component is UL listed as a fire alarm control unit, then a smoke detector is required above it. If the component is UL listed as an annunciator panel (even if the system can be reset from it), then a smoke detector will not be required above it. It also helps to understand that a UL-listed annunciator panel (even if it includes a reset function) is a component that can be removed from the system and the system will still maintain its integrity. If the wires to the annunciator panel become disabled, a trouble signal is sent to the main fire alarm control unit that is protected. (June 30, 2008)

IBC 907.5.2.1 Do the minimum sound pressures listed [75 dBA for R & I-1; 90 dBA for mechanical room; and 60 dBA for all others] in this code section supersede the requirement that calls for the sound

pressures to be 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound pressure level of a lengthy duration?

Answer: This is a code provision that provides performance language that does not align well with a "yes" or "no" answer. In essence, the minimum sound pressures listed govern until such time as the average sound plus 15 dBA, or the maximum sound plus 5 dBA, exceeds those minimums. In essence, it is the higher sound pressure that governs and that determines which holds precedence. (September 1, 2011)

IBC 907.5.2.3.4 Does the requirement that all dwelling units be “provided with the capability to support visible notification appliances” mean that I must install the wiring and boxes for a future installation?

Answer: No. Although pre-wiring of the dwelling for the future installation of a visible alarm notification appliance is one way of satisfying this performance language, it is not the only solution. The code official can allow other methodologies proposed by the designer. It is assumed the owner is in agreement with the alternative methodology being proposed by the designer. (September 1, 2011)

IBC 1002.1 Which passageways are corridors, that consequently must meet the requirements for corridors?

Answer: IBC 1002.1 defines a corridor as an enclosed exit access component that defines and provides a path of egress to an exit.

A convenience path that does not lead to a required exit is not a corridor, regardless of the manner of construction.

A corridor - by definition - has full-height walls on both sides, and occupants in a corridor need special protection because the walls (1) cause a sensory isolation from the adjacent spaces of the building and (2) limit the egress paths within the corridor. Even those full-height walls with glazed panels create the defined and enclosed path that is a corridor.

There may be short sections of full-height walls in otherwise open egress paths, such as vestibules, that do not create corridors. (June 30, 2008)

IBC 1006.1, 1006.3 and 2702.2.4: Is the use of occupancy sensors permitted as a way of complying with IBC section 1006.1 and assuring the means of egress is illuminated when the space served is occupied?

Answer: Yes, the use of automatic controls, like occupancy sensors, is an acceptable way of conserving energy while also assuring the lights will be on during normal use of the spaces. When employing such automatic controls, their use must be incorporated into the design such that they will be overridden by the emergency power system upon loss of normal power. In essence, the switch controllers must be equipped for fail-safe operation. (June 20, 2008)

IBC 1007.2.1 To determine whether an accessible floor is four or more stories above or below a level of exit discharge, do I start counting with the story that is at a level of exit discharge?

Answer: No. To count the stories above, start by finding the highest level of exit discharge. Next find the floor of the story that is above that and you have identified the first story above. From that point you just add. For the stories below, first find the lowest level of exit discharge. Next find the floor of the story that is below that level and you have identified the first story below. From that point you just add stories. (June 30, 2008)

IBC 1014.4 Are there circumstances other than as specifically listed in the second provision of IBC section 1014.2, where egress is permitted through a room that contains either a storage area or a restaurant-kitchen area?

Answer: Yes. The room must (1) be accessory to the area served; (2) include a discernible path of egress travel to an exit; and (3) in the case of a restaurant-kitchen area, include that path outside of the kitchen's work area. For example, a clearly defined path through a large storage room serving a print shop can be part of a path of egress travel, but a small storage room which has a high potential to become crowded and obstructive, or which has locking hardware to prevent egress, should not be included in the path. (September 1, 2011)

IBC 1101.2, ICC/ANSI A117.1 section 608.2.1 When providing a shower that is not inside of a Type B dwelling unit, can the shower be larger than 36" wide by 36" deep inside finished dimension and still be considered a Transfer-Type shower compartment?

Answer: A shower that is not located within a Type B dwelling unit is subject to more stringent criteria than a shower within a Type B dwelling unit because of the intended flexibility of the fair housing laws. Accordingly, to be recognized as a Transfer-Type shower compartment, the shower must meet all of the provisions specified in section 608.2.1 of the ICC/ANSI standard. The compact size specified provides a configuration that when coupled with all the other requirements associated with such things as grab bars, seat and shower controls, is routinely recognized and accepted as being usable. A larger compartment can be recognized as a Transfer-type provided the controls, grab bars and seat are situated and configured such that it provides the same characteristics as would exist in the specified shower compartment. Important characteristics are the seat back and seat location that must be situated to provide support for the person that has transferred to the seat while also meeting the reach provisions associated with the grab bars and shower controls. Due to the complexity associated with such designs, when a larger shower compartment is being proposed as a Transfer-Type shower compartment, the design must be approved by the code official and documented as such. If not approved as a Transfer-Type shower compartment, the larger compartment is considered a Roll-In-Type shower compartment and subject to the requirements of ICC/ANSI A117.1 section 608.2.2 or section 608.2.3. (July 30, 2008)

IBC 1103.2.3 and 1109.3: Do the employee sinks that are typically provided in medical clinic examination rooms have to be accessible?

Answer: No. Even though all of the exam rooms must be accessible, the sinks in those rooms are considered employee workstations covered by the general exception found under Comm 1103.2.3.(June 30, 2008)

IBC 1104, IEBC 1005, and IEBC 605 Are there any situations where a platform lift complying with Chapter Comm 18 may be used as a portion of the accessible route for an addition to an existing building, so as to comply with the requirement that an accessible route be provided to areas that affect accessibility to or include an area of primary function?

Answer: Vertical transportation can be provided by means of a platform lift, when the main reason for the addition and the platform lift is to provide an accessible route to existing portions of the building that would otherwise remain inaccessible to people with disabilities. The platform lift may be included in the new construction provided the cost of including the installation of a minimally compliant elevator as a part of the accessible route exceeds 20 percent of the cost of the remodeling, including both the alteration work and the addition. A platform lift is also permitted as a part of the accessible route in all of the limited conditions outlined in IBC 1109.7. (July 30,2008)

IBC 1104.1, 1104.2 and 1104.4: Regarding accessibility to people with disabilities, am I allowed to use the aggregate floor area of exception 1 specified in IBC 1104.4 for a strip-type shopping center that has more than 5 mercantile spaces, but has no more than five spaces which are interconnected via a common pedestrian way?

Answer: The basic premise of accessibility is that facilities in and of themselves are not to provide a point of discrimination. In essence, what is available to the able-bodied is to be available to people with disabilities. Based on that premise, it is acceptable to allow the use of the exception in limited instances. There is an expectation that there is a geographical feature that does not lend itself to an interconnected common pedestrian way.

The best example would be a rectangular two-story building that has five tenant spaces within each story. The building is situated such that the long side of the building is constructed perpendicular to the slope on a steeply sloped site. There is no circulation path between stories. A vehicular way (public road or parking lot) fronts each story, but the 5 tenant spaces on each story are served by a separate pedestrian way. In a condition such as that, the building itself creates no barrier to people with disabilities that does not also exist for the able-bodied, hence satisfying the intent of the exception. In that example, it would also be appropriate for mezzanines on the lower story to be aggregated separately from those on the upper story in satisfaction of the exception. (June 30, 2008)

IBC 1104.2, 1104.4 and 1104.1 Regarding accessibility to people with disabilities, am I allowed to use the aggregate floor area of exception 1 specified in IBC 1104.4 for a strip-type shopping center that has more than five mercantile spaces, but has no more than five spaces which are interconnected via a common pedestrian way? (See answer just above, IBC 1104.1.) (June 30, 2008)

IBC 1104.4, 1104.1 and 1104.42 Regarding accessibility to people with disabilities, am I allowed to use the aggregate floor area of exception 1 specified in IBC 1104.4 for a strip-type shopping center that has more than five mercantile spaces, but has no more than five spaces which are interconnected via a common pedestrian way? (See answer just above, IBC 1104.1.) (June 30, 2008)

IBC 1104.4 In multilevel buildings, which floor levels must be accessible to persons with disabilities?

Answer: An accessible route is required to floor levels within all stories and mezzanines unless meeting an exception in IBC 1104.4 or elsewhere in IBC 1100 to IBC 1110. Raised or depressed areas of a story must be provided with an accessible route. (June 30, 2008)

IBC 1107.7.2 and SPS 362.1102(1)(a) Do the operable control requirements found in SPS 362.1101(1)(a) overrule the general exception spelled out in IBC 1107.7.2 and require the controls on the upper levels of multistory units to be located at the heights required of Type B units?

Answer: No. The two provisions actually work together. The Wisconsin provision in SPS 362.1101(1)(a) that requires the circuit controls to follow Sections 309.2 and 309.3 of the ICC/ANSI A117.1 standard is not in conflict with the general exception for "multistory units" found in IBC 1107.7.2. That exception effectively excuses the multistory units, typically townhouses, from all the "Type B" requirements.

In summary, because the multistory exception in Comm 62.1107 waives all "Type B" requirements, the operable control requirements of SPS 362.1101(1)(a) are not applicable. (June 30, 2008)

IBC 1109.3 and IBC 1103.2.3: Do the employee sinks that are typically provided in medical clinic examination rooms have to be accessible?

Answer: No. Even though all of the exam rooms must be accessible, the sinks in those rooms are considered employee workstations covered by the general exception found under IBC 1103.2.3. (June 30, 2008)

IBC 1205.1 Are parking garages required to be provided with the natural or artificial light that is required of all spaces intended for human occupancy?

Answer: No. The department does not consider a parking garage to be the type of space that requires the natural or artificial lighting being called for by this section of the code. (September 1, 2011)

IBC 1210.2 Is gypsum board allowed as the wall surface within two feet of urinals and water closets?

Answer: Yes, provided the surface is finished to be smooth, hard, and nonabsorbent - and remains so. (June 30, 2008)

IBC 1502.1, 1508.1, 1505.1, 2603.4.1.5, and Chapter 35 Can foam plastic insulation be used as one of the components within a roof assembly without the thermal barrier referenced in IBC section 2603.4.1.5 if the roof assembly has been tested and listed as FM Class 1, even if the testing was to FM 4470 instead of FM 4450?

Answer: Yes. The purpose of the thermal barrier is to prevent the foam plastic from becoming involved in the early stages of a fire within the building below. The Class 1 fire classification indicates that the assembly will not self-propagate if exposed to a localized fire exposure from the underside of the deck. That determination is based on Factory Mutual's construction materials calorimeter test, the test that is included as a part of both FM 4450 and FM 4470. If the roof assembly fails that part of the test, the roof assembly cannot be fire classified as Class 1. (July 31, 2008)

IBC 1508.1, 1502.1, 2603.4.1.5, and Chapter 35 Can foam plastic insulation be used as one of the components within a roof assembly without the thermal barrier referenced in IBC section 2603.4.1.5 if the roof assembly has been tested and listed as FM Class 1, even if the testing was to FM 4470 instead of

FM 4450?

Answer: Yes. The purpose of the thermal barrier is to prevent the foam plastic from becoming involved in the early stages of a fire within the building below. The Class 1 fire classification indicates that the assembly will not self-propagate if exposed to a localized fire exposure from the underside of the deck. That determination is based on Factory Mutual's construction materials calorimeter test, the test that is included as a part of both FM 4450 and FM 4470. If the roof assembly fails that part of the test, the roof assembly cannot be fire classified as Class 1. (July 31, 2008)

IBC 1613.1 When do sprinkler systems have to be provided with seismic bracing?

Answer: Sprinkler systems in buildings of seismic design category C, D, E or F must be provided with seismic bracing. The bracing must conform to the design parameters in Section 13.6.8 of ASCE 7. Seismic bracing is not required for sprinkler systems in buildings of seismic design category A or B. (June 30, 2008)

IBC 1613.1 When does an elevator have to be installed in accordance with the seismic provision of IBC 1613.1 / ASCE 7 section 13.6.10?

Answer: The elevator must meet the seismic provisions when located within any building of seismic design category D, E or F. In addition, an elevator that is a required accessible means of egress within a building of seismic design category C must meet that requirement. (June 30, 2008)

IBC 2603.4.1.5, 1502.1, 1508.1, and Chapter 35 Can foam plastic insulation be used as one of the components within a roof assembly without the thermal barrier referenced in IBC section 2603.4.1.5 if the roof assembly has been tested and listed as FM Class 1, even if the testing was to FM 4470 instead of FM 4450?

Answer: Yes. The purpose of the thermal barrier is to prevent the foam plastic from becoming involved in the early stages of a fire within the building below. The Class 1 fire classification indicates that the assembly will not self-propagate if exposed to a localized fire exposure from the underside of the deck. That determination is based on Factory Mutual's construction materials calorimeter test, the test that is included as a part of both FM 4450 and FM 4470. If the roof assembly fails that part of the test, the roof assembly cannot be fire classified as Class 1. (July 31, 2008)

IBC 2702.2.4, 1006.1, and 1006.3: Is the use of occupancy sensors permitted as a way of complying with IBC section 1006.1 and assuring the means of egress is illuminated when the space served is occupied?

Answer: Yes, the use of automatic controls, like occupancy sensors, is an acceptable way of conserving energy while also assuring the lights will be on during normal use of the spaces. When employing such automatic controls, their use must be incorporated into the design such that they will be overridden by the emergency power system upon loss of normal power. In essence, the switch controllers must be equipped for fail-safe operation. (June 20, 2008)

IBC 2902.1, Table 2902.1, 2902.3, and IBC Section 202 Are toilet rooms required for buildings or structures that are not designed to be normally occupied?

Answer: No. Many buildings and structures are not designed as an "occupiable space" and accordingly need not include toilet rooms within them or adjacent to them. Included are buildings like mini-storage buildings, parking garages, storage garages, or aircraft hangers. Some additional examples include those buildings or structures that provide a drive-in service like self-serve car washes or a walk-in service like ATM kiosks. (September 1, 2011)

IBC 2902.2 - Exception 2, IEBC 910, and Comm 66.0912 If in a commercial building that predates SPS 360 to 366 there is an alteration or use change to a space having a single toilet room, can the single toilet room still be permitted if the total occupant load it is serving exceeds the 15 person limit as specified in the second exception of IBC section 2902.2?

Answer: Yes, some existing toilet rooms are allowed to use the 25 person limit previously assigned the single toilet room.

Since July 2002 the Wisconsin Commercial Building Code (WCBC) permits a single toilet room to serve spaces with a maximum employee load of 15 where the maximum total load (employees and customers) does not exceed 15 persons. In some ways this is more restrictive than in the past, but in other ways it is less restrictive. The current requirement is not retroactive, and the Division recognizes the validity of previous approvals.

When within a facility built under the pre-July 2002 edition of the WCBC, the division will continue to recognize the capacity for which the single toilet room was originally designed, provided the use of the space served by the toilet room does not change, or changes only to another use that was permitted to utilize that exception. In previous commercial building codes, a single fixture toilet room was permitted in lieu of separate a toilet room for each sex, when serving a limited number of people within a limited number of uses.

The following is a list of those limited uses:

- Adult Day Care
- Factory
- Repair Garage
- Business
- Mercantile
- Small Assembly Spaces like Ice Cream Parlors or Coffee Shops
- Service Garage
- Child Day Care
- Occupied Storage Garage
- Warehousing/Storage

The people limitation referenced in the earlier versions of the WCBC was a 25-person total capacity.

In summary, when uses change between those listed above, or when people loads change slightly due to alterations or subtle use changes, the listed uses are not required to add a second toilet room, provided the total number of occupants does not exceed 25 persons and the building was constructed prior to July 1, 2002. An alteration to the single toilet room likewise does not trigger a requirement to add a second toilet room. (September 1, 2011)

IBC 2902.3, 2902.1, Table 2902.1, and IBC Section 202 Are toilet rooms required for buildings or structures that are not designed to be normally occupied?

Answer: No. Many buildings and structures are not designed as an “occupiable space” and accordingly need not include toilet rooms within them or adjacent to them. Included are buildings like mini-storage buildings, parking garages, storage garages, or aircraft hangers. Some additional examples include those buildings or structures that provide a drive-in service like self-serve car washes or a walk-in service like ATM kiosks. (September 1, 2011)

IBC 2902.3, 2902.1, and Table 2902.1, SPS 362.2900, 362.1210, and 362.2902(6), In buildings or spaces that are required to be provided toilet facilities, must the toilet rooms be available to the public when the building or space is not open for use?

Answer: No. Most buildings and spaces provide their services during their business hours or hours of operation and there is no requirement that the toilet rooms remain available to the public when the business is closed for the day. Not so obvious are those buildings or structures that provide some walk-in or drive-in services that are available 24/7 even though the rest of the building or space, including the toilets within, is closed to the public. The best example of this would be the service stations that include a convenience store that has toilet rooms that are open during the normal operating hours of the convenience store, but not at all times the gas pumps are available for use. (September 1, 2011)

IECC 502.4.7 Which doors are considered entrance doors that necessitate the use of a vestibule?

Answer: The department will apply the provisions requiring the inclusion of a vestibule to a doorway, set of doors or other forms of portal that are ordinarily used to gain access or egress to the building or space by the

public or employees. This excludes doors that are not used for access and are typically only for emergency or limited use.

Examples under this exclusion include emergency exit doors and doors discharging from an exit stairway. There may be situations where more than one entrance/exit or a building or space would be required to include a vestibule. Examples of multiple main entrances/exits would be a shopping mall, a strip shopping mall or "big box" store.

Note, this clarification does not preempt any of the vestibule exceptions under IECC 502.4.6. (September 1, 2011)

IEBC 605, IEBC 1005, and IBC 1104 Are there any situations where a platform lift complying with SPS 318 may be used as a portion of the accessible route for an addition to an existing building, so as to comply with the requirement that an accessible route be provided to areas that affect accessibility to or include an area of primary function?

Answer: Vertical transportation can be provided by means of a platform lift, when the main reason for the addition and the platform lift is to provide an accessible route to existing portions of the building that would otherwise remain inaccessible to people with disabilities. The platform lift may be included in the new construction provided the cost of including the installation of a minimally compliant elevator as a part of the accessible route exceeds 20 percent of the cost of the remodeling, including both the alteration work and the addition. A platform lift is also permitted as a part of the accessible route in all of the limited conditions outlined in IBC 1109.7. (July 30, 2008)

IEBC 902.1 and IBC 402 For a change of use of a tenant space within a mall, must the tenant space be separated from any other tenant spaces by a fire partition having a fire-resistive rating complying with IBC 708?

Answer: The requirement for separation of tenant spaces by fire partitions complying with IBC 708 applies only if the mall is a "covered mall building" designed to comply with IBC 402. Consequently, if the mall, or if a portion of the mall that is separated by fire walls into a "separate building," complies with IBC 402 and the designer chooses to use the covered mall option, fire partitions are required.

Otherwise, separation between tenant spaces may or may not be required, based on nonseparated-use or separated-use options that may be selected, and the corresponding code requirements. (June 30, 2008)

IEBC 910, SPS 366.0912 and IBC 2902.2 - Exception 2 If in a commercial building that predates Comm 60 to 66 there is an alteration or use change to a space having a single toilet room, can the single toilet room still be permitted if the total occupant load it is serving exceeds the 15-person limit as specified in the second exception of IBC section 2902.2?

Answer: Yes, some existing toilet rooms are allowed to use the 25-person limit previously assigned the single toilet room.

Since July 2002 the Wisconsin Commercial Building Code (WCBC) permits a single toilet room to serve spaces with a maximum employee load of 15 where the maximum total load (employees and customers) does not exceed 15 persons. In some ways this is more restrictive than in the past, but in other ways it is less restrictive. The current requirement is not retroactive, and the Division recognizes the validity of previous approvals.

When within a facility built under the pre-July 2002 edition of the WCBC, the Division will continue to recognize the capacity for which the single toilet room was originally designed, provided the use of the space served by the toilet room does not change, or changes only to another use that was permitted to utilize that exception. In previous commercial building codes, a single fixture toilet room was permitted in lieu of separate a toilet room for each sex, when serving a limited number of people within a limited number of uses.

The following is a list of those limited uses:

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- Child Day Care
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- Warehousing/Storage

The people limitation referenced in the earlier versions of the WCBC was a 25-person total capacity.

In summary, when uses change between those listed above, or when people loads change slightly due to alterations or subtle use changes, the listed uses are not required to add a second toilet room, provided the total number of occupants does not exceed 25 persons and the building was constructed prior to July 1, 2002. An alteration to the single toilet room likewise does not trigger a requirement to add a second toilet room. (September 1, 2011)

IEBC 1005, IEBC 605, and IBC 1104 Are there any situations where a platform lift complying with SPS 318 may be used as a portion of the accessible route for an addition to an existing building, so as to comply with the requirement that an accessible route be provided to areas that affect accessibility to or include an area of primary function?

Answer: Vertical transportation can be provided by means of a platform lift, when the main reason for the addition and the platform lift is to provide an accessible route to existing portions of the building that would otherwise remain inaccessible to people with disabilities. The platform lift may be included in the new construction provided the cost of including the installation of a minimally compliant elevator as a part of the accessible route exceeds 20 percent of the cost of the remodeling, including both the alteration work and the addition. A platform lift is also permitted as a part of the accessible route in all of the limited conditions outlined in IBC 1109.7. (July 30, 2008)

IMC 502.1 Is mechanical exhaust required by the Wisconsin Commercial Building Code for the space accommodating aircraft in a hangar?

Answer: No, but it depends. The hangar space accommodating aircraft is addressed under section IMC 502.1. Aircraft hangars come in various shapes and sizes, but more importantly, a wide variety of activities can take place within the space accommodating the aircraft. It is the type of activities that will occur within the space and whether those activities will generate dust, particles, gases or contaminants in sufficient quantities to pose a safety or health risk that will determine if mechanical exhaust is required under IMC 502.1. The department does not anticipate that a space merely accommodating the storage of aircraft in itself will generate contaminants at a level to pose a risk. When a situation arises where the activities would create contaminants sufficient to warrant mechanical exhaust, the type of exhaust system and amount of exhaust needed will be dependent upon the activities involved. See Q&A on Table 64.0403.

IMC 502.14 Is it necessary to provide a mechanical source capture system in accordance with section IMC 502.14 if the vehicle tailpipe exhausts are extended to the exterior of a building by non mechanical means?

Answer No; the practice of temporarily attaching extensions and conveying exhaust contaminants out from the occupied space and to the exterior is an acceptable solution. IMC sections 401.6 and 502.1 provide flexibility in dealing with contaminants from stationary sources such as operating engines of motor vehicles. The language under these provisions recognizes the ability to collect, and/or treat, or convey to the exterior contaminants generated from stationary sources rather than employing a mechanical source capture system under IMC 502.14. Hoses or tubes used to extend vehicle tailpipes are to be of suitable material to be in contact with hot tailpipes and vehicle emissions, and their layout, including the size and length, needs to be effective in conveying the contaminants to the exterior. (September 1, 2011)

IMC 507.2 When is a Type I or Type II kitchen exhaust hood required for a "commercial cooking appliance" or commercial dishwashing appliance?

Answer: The definition of commercial cooking appliance under IMC Section 202 and the kitchen exhaust hood provisions under IMC 507.2 do not provide specific demarcations to answer this question for every situation and circumstance. Whether a cooking appliance is a commercial cooking appliance depends upon several variables and factors, including the nature of use, the frequency of use, the type of appliance, and even the type of food involved.

IMC 202 broadly defines a commercial cooking appliance as appliances that produce "grease [laden] vapors, steam, fumes, smoke, or odors that are required to be removed" from a commercial "food service establishment." A food service establishment is even more broadly defined as including any building or portion thereof used for the preparation and serving of food.

A dwelling unit, or either a dorm room or hotel sleeping room with a stove, oven, microwave, coffee maker, or toaster does not constitute a food service establishment. In addition, either an employee break room or a hotel/motel breakfast bar with microwaves, coffee makers, and toasters does not constitute the type of food service establishment that would warrant a full blown kitchen ventilation system. None of these facilities are primarily in the business of preparing the types or quantities of food normally associated with a commercial kitchen and accordingly, neither a Type I nor a Type II exhaust hood is required for these facilities.

However, this still leaves a wide variety of occasions, situations, and operations in "commercial buildings" where food is prepared and sold, such as restaurants, taverns, cafeterias serving hospitals or dormitories, concession stands serving high school gymnasiums, and domestic kitchen facilities in church basements and convenience stores. In some instances, food-preparation appliances are brought in temporarily, adjunct to another activity. A popcorn wagon or completely enclosed popcorn machine provided for a high school basketball game is an example. This type of appliance and the frequency of its use under these circumstances would not constitute a "commercial cooking appliance". Many convenience stores offer, besides coffee, a hot dog or a slice of pizza. Warming trays, ovens, or containers (e.g. crock pots) for such items as hot dogs or pre-cooked bratwursts, and enclosed single-pizza ovens at convenience stores are not pre-determined to be "commercial cooking appliance." If the appliance is not a "commercial cooking appliance," a Type I or II hood under IMC 507 is not required.

"Commercial cooking appliances", such as those used in cafeterias, restaurants, dormitory kitchens, school kitchens, institutional kitchens, and banquet facility kitchens, that produce grease-laden vapors must be provided with a Type I hood. These appliances include deep fryers, griddles, tilting skillets or woks, braising and frying pans, charbroilers, salamander and upright broilers, infrared broilers, stoves and ranges, and barbecue equipment. Also, the type of food being prepared is a factor in whether grease-laden vapors are produced with the appliance. Commercial cooking appliances which are used in such facilities and which produce copious amounts of steam and considerable smoke, or fumes, but not grease-laden vapors or copious amounts of smoke, must be provided with at least a Type II hood. These include steamers, completely enclosed ovens, and warming ovens.

Also, under IMC 917.1, a Type I or II hood may be necessary for a permanent cooking appliance in order to fulfill the listing requirements or instructions from the manufacturer of the appliance. (June 30, 2008)

IMC 607.6.2.1 and IBC 716.6.2.1 Does the language "within the cavity of a wall," under the exceptions of sections IBC 716.6.2.1 and IMC 607.6.2.1 regarding ceiling dampers, preclude some or all of the exhaust duct system from being located within the cavity of a floor/ceiling assembly or roof/ceiling assembly?

Answer: No. The exceptions under IBC 716.6.2.1 and IMC 607.6.2.1 indicate that "Ceiling radiation dampers are not required where exhaust duct penetrations are protected in accordance with IBC section 713.4.1.2, are located within the cavity of a wall, and do not pass through another dwelling unit or tenant space."

In this context, the exhaust system and some or all of the associated ductwork are often located within the ceiling cavity. The reference to a "wall cavity" emphasizes the condition that the duct system for the exhaust

system may not pass through the space of another dwelling or tenant. Ductwork within the cavities of horizontal and vertical assemblies separating dwelling units or tenant spaces are not considered to be “passing through” the space of another dwelling or tenant. (September 1, 2011)

NFPA 72 4.4.5, IBC 907.2 Does the requirement that fire alarm control units be protected mean that I must protect all annunciator panels if they include a reset function?

Answer: No. Although NFPA 72 requires the protection of a fire alarm control unit, we will not apply that requirement to an annunciator panel, even when the system can be reset from that panel. To help understand why one is protected while one is not, it helps to recognize the difference. The NFPA definition of fire alarm control unit is "A system component that receives inputs from automatic and manual fire alarm devices and might supply power to detection devices and to a transponder or off-premises transmitter". The definition of annunciator is "A unit containing one or more indicator lamps, alphanumeric displays, or other equivalent means in which each indication provides status information about a circuit, condition, or location". Because some fire alarm control units may also include annunciating capabilities, we look elsewhere to delineate. It has been determined that the best way to differentiate is to use the UL listing for the unit. If the component is UL listed as a fire alarm control unit, then a smoke detector is required above it. If the component is UL listed as an annunciator panel (even if the system can be reset from it), then a smoke detector will not be required above it. It also helps to understand that a UL-listed annunciator panel (even if it includes a reset function) is a component that can be removed from the system and the system will still maintain its integrity. If the wires to the annunciator panel become disabled, a trouble signal is sent to the main fire alarm control unit that is protected. (June 30, 2008)

Plan Submittal Requirements for Hospitals and Nursing Homes, and for Attached Building Areas with Other Uses

Where are building and HVAC plans submitted? All building and HVAC plans with buildings that contain hospital and/or nursing home functions shall be submitted to the Department of Health Services (DHS), Bureau of Quality Assurance, Plan Review Clerk, 1 West Wilson Street, P.O. Box 2969, Madison, WI 53701-2969, Phone 608-267-1442.

Plans for plumbing systems, private onsite waste water treatment, elevators, boilers, mechanical refrigeration systems, etc., still are required to be submitted to the Industry Services Division of the Wisconsin Department of Safety and Professional Services.

When does Industry Services Division review the building and HVAC plans? IS will only be involved in the building and HVAC review of a health care facility with or without attached non-healthcare uses if the plan indicates a 4-hour unpierced firewall or a pedestrian access way separates the non-healthcare portions from the health care portion.

If that situation occurs, DHS will review the healthcare portion and IS will review the non-healthcare portion including the 4-hour fire wall or pedestrian access way.

What happens when a joint review occurs? Upon DHS determination that a joint review will occur, DHS will contact IS to schedule a plan review time for the non-healthcare portion. DHS will coordinate with the submitter and forward one copy of the properly signed and sealed plans along with the appropriate IS fees and the completed IS application form to the Madison IS Office.

IS will review the plan and email the plan review action letter to DHS for inclusion or as an attachment to the DHS letter of review.

If the plan is held for additional information by either agency, plan revisions or additional information will again be submitted to DHS. DHS will forward one copy of the revised plan submittal to IS. IS will review the re-submittal within five working days of receipt by the

IS staff. email will be used to send the letter to DHS to include with their approval correspondence to the submitter.

How are the fees determined? Fees for that part of the building determined to be reviewed by Bureau of Quality Assurance shall be calculated utilizing the fee tables and instructions found on the Department of Health Services Plans Approval Application Form [DSL-2333](#)

Fees for that part of the building determined to be reviewed by Safety and Building shall be calculated utilizing the fee tables and instructions found on the Department of Safety and Professional Services Buildings, HVAC, and Components Application For Review [Form SBD-118](#).

What happens in a preliminary review? Since DHS will be the primary contact for initial submittal, DHS will conduct the preliminary* reviews and respond to written questions.

In cases where DHS determines that an unpierced building division wall separates the non-healthcare portion from the healthcare portion, DHS will forward those plans to IS for preliminary review. The agency reviewing the portion of the building will respond to the written questions for the respective part of the building that they will be reviewing and share with the other agency.

(*Note: The term "preliminary review" is used differently by the two agencies. DHS preliminary is true preliminary review and is usually mandated. IS preliminary is a written response to specific questions, not a cursory review of the project.)

Who issues permission to start? The reviewing agency will be responsible for permission to start** on the portion it will be reviewing.

(**NOTE: The DHS may issue a permission to start for demolition prior to alteration work as well as for new footings and foundation work. IS only issues permissions to start for footing foundation work up to grade and does not require plan approval prior to demolition. IS permission to start procedure is to require either a footing and foundation or a complete building plan be submitted for review prior to issuance of a permission to start.)

Can footing/foundation plans be submitted for review so construction work can begin before the complete building plans are finished? In lieu of complete plans, a designer may submit footing and foundation plans for review and approval, then submit the full building plans at a later date. These plans should also be submitted directly to DHS and the procedures mentioned above will be followed.

How is a Petition for Variance filed? All petitions for buildings that contain health care facilities shall be submitted to DHS who will follow procedures similar to those for plan review. Contact DHS for required forms.

Question: IBC 708.2, IBC 712.4, 712.5 and 712.7, IBC 713.1.1, IBC 713.4.1.2, IBC 713.4.1.4, IBC 716.1, IBC 716.1.1, and IBC 716.7. What protection is required for a duct penetration through the ceiling membrane of a fire resistance rated floor/ceiling or roof/ceiling assembly?

Answer: It depends on the type of duct penetration and what types of tested and listed protection components are available for the particular application. A fire resistance rated floor/ceiling or roof/ceiling assembly is required to be constructed as a horizontal assembly meeting the requirements of s. 712. The applicable code sections are reprinted in part below:

IBC 708.2 Shaft enclosure required. Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this section.

IBC 712.4 Continuity. Assemblies shall be continuous without openings, penetrations, or joints except as permitted by this section and Sections 708.2, 713.4, 714 and 1022.1.

IBC 712.5 Penetrations. Penetrations of horizontal assemblies shall comply with Section 713.

IBC 712.7 Ducts and air transfer openings. Penetrations in horizontal assemblies by ducts and air transfer openings shall comply with Section 716.

IBC 713.1.1 Ducts and air transfer openings. Penetrations of horizontal assemblies not protected with a shaft as permitted by Exception 4 of Section 708.2, and not required to be protected with fire dampers by other sections of this code, shall comply with Sections 713.4 through 713.4.2.2. Ducts and air transfer openings that are protected with *dampers* shall comply with Section 716.

IBC 713.4.1.2 Membrane penetrations. Penetrations of membranes that are part of a horizontal assembly shall comply with 713.4.1.1.1 or 713.4.1.1.2.

IBC 713.4.1.4 Dissimilar materials. Noncombustible penetrating items shall not connect to combustible materials beyond the point of firestopping unless it can be demonstrated that the fire-resistance integrity of the horizontal assembly is maintained.

IBC 716.1 General. The provisions of this section shall govern the protection of duct penetrations and air transfer openings in assemblies required to be protected.

IBC 716.1.1 Ducts that penetrate fire-resistance rated assemblies without dampers. Ducts that penetrate horizontal assemblies not required to be contained within a shaft and not required by this section to have dampers shall comply with the requirements of Sections 713.4 through 713.4.2.2.

IBC 716.7 Flexible ducts and air connectors. Flexible ducts and air connectors shall not pass through any fire resistance rated assembly.

A ceiling membrane penetration does not create an opening through a floor/ceiling assembly therefore Section 708.2 does not require a shaft enclosure. Section 712.7 requires penetrations of horizontal assemblies by ducts and air transfer opening to comply with s. 716 and s. 716.1.1 states where a shaft is not required and dampers are not required the penetration shall comply with 713.4 through 713.4.2.2. Section 713.1.1 makes it clear that not all penetrations are required to be protected with either shaft enclosures or dampers but in cases where neither is appropriate or applicable, penetrations of horizontal assemblies shall comply with 713.4 through 713.4.2.2. Horizontal fire dampers are for through penetrations of horizontal assemblies and generally have been tested and listed for use in masonry and concrete floor assemblies. Ceiling radiation dampers are generally tested and listed for use at air outlet or inlet terminals (i.e. ceiling supply air diffusers and return air grilles). Other protective assemblies for use at a ductwork ceiling termination that may be part of a tested and listed fire resistance rated horizontal assembly and would not require the use of a ceiling radiation damper include Air Terminal Units (UL product category BZGU) and Ceiling Air Diffusers (UL product category BZZU).

Section 716.6.2 does not require a fire damper or ceiling radiation damper for a ceiling membrane penetration by ductwork that does not terminate at a supply air diffuser or return air grille. In cases where continuous non-combustible ductwork penetrates a ceiling membrane, tested and listed dampers are not appropriate and therefore the penetration shall comply with 713.4 through 713.4.2.2. Section 713.4.1.2 requires that penetrations of membranes that are part of a horizontal assembly shall comply with section 713.4.1.1.1 or 713.4.1.1.2, either installed as tested in the approved fire-resistance rated assembly or protected with a through penetration firestop system respectively. Section 716.7 prohibits flexible duct and air connector penetrations of fire resistance rated assemblies and Section 713.4.1.4 prohibits connection of non-combustible penetrating items to combustible materials. Therefore continuous ductwork penetrating a ceiling membrane must be continuous metal ductwork from the appliance to the air outlet or inlet terminal. Where continuous ductwork penetrates a ceiling membrane and does not terminate at a supply air diffuser or return air grille the annular space around the duct penetration shall be protected by an appropriately tested and listed through penetration firestop system.

See also the Q&A for IBC 708.4, 711.3 and 717.4.2 which indicates a fire resistance rated roof/ceiling assembly is not required to satisfy the dwelling and sleeping unit separation requirements of s 420.

Some example scenarios and available or alternative protection components/requirements follow:

1. Ceiling membrane duct penetration with a supply air diffuser mounted in the plane of the ceiling membrane. An appropriately tested and listed Ceiling Radiation Damper (tested for dynamic airflow conditions as necessary) shall be provided. If one is not available for the specific application or as an alternative a Ceiling Air Diffuser may be provided as indicated in the tested and listed fire resistance rated assembly or Duct Outlet Protection System A or B as described in the guide information for the assemblies in the UL Directory.
2. Ceiling membrane duct penetration with a return air grille mounted in the plane of the ceiling membrane. An appropriately tested and listed Ceiling Radiation Damper (tested for dynamic airflow conditions as necessary) shall be provided. If one is not available for the specific application or as an alternative an Air Terminal Unit may be provided as indicated in the tested and listed fire resistance rated assembly or Duct Outlet Protection System A or B as described in the guide information for the assemblies in the UL Directory.
3. Ceiling membrane duct penetration by continuous noncombustible metal ductwork from the supply plenum of an upflow furnace and direction of airflow into the floor/ceiling assembly above. Appropriately tested and listed Ceiling Radiation Dampers, Ceiling Air Diffusers, Air Terminal Units, or Fire Dampers are likely not available for this configuration nor would the UL Duct Outlet Protection Systems be appropriate. Therefore the annular space around the noncombustible penetrating ductwork must be protected with a tested and listed through penetration firestop system.
4. Ceiling membrane duct penetration by continuous noncombustible metal ductwork on the return side of an upflow furnace and direction of airflow out of the floor/ceiling assembly above. Appropriately tested and listed Ceiling Radiation Dampers, Ceiling Air Diffusers, Air Terminal Units, or Fire Dampers are likely not available for this configuration nor would the UL Duct Outlet Protection Systems be appropriate. Therefore the annular space around the noncombustible penetrating ductwork must be protected with a tested and listed through penetration firestop system.

SPS 361.02(3)(e) Due to the size and complexity of farm operations, there is some confusion with respect to farming. **What is and what is not considered farming, exempt from code requirements?**

Answer: The WI Commercial Building Code deals with buildings and the use of those buildings, not with corporate structure or size. As farming is defined broadly as the cultivation and planting, raising, harvesting, processing, storage, delivery to market, and delivery to the final consumer of farm products, and the operation must be accomplished by the farmer (individual, employee of the individual, or employee of a corporation involved with the above farming operations). The below tests can be applied to determine if the building is exempt.

1. Is the building used for storage, processing, packing, etc., of farm products, 90 percent of which were raised by the building owner on farms the building owner owns?
2. Is the building used for the storage of seed, fertilizer or other products, 90 percent of which the building owner will use to raise the farm product on farms owned by the building owner?
3. Is the building used for the storage or repair of equipment the building owner will use to raise, process, or deliver farm products, of which 90 percent were raised by the building owner?
4. Is the building used for the sale of farm products raised by the building owner on farms owned by the building owner, and no more than 10 percent of the retail sales area is devoted to sale of other items?
5. Is the building used for office purposes to run the operations only on farms, all of which are owned by the building owner?

If the answers to questions such as the above are yes, the building is farming and exempt, regardless of the size of the farm operation or the number of employees involved in the farming operation.

The term "owned" as used here can also mean "rented" such as with a tenant farmer. The tests must be applied to the entire building; however, a storage building, for example, portions of which are rented to

several different farmers for storage of farm products, would be considered as a building under the scope of the code as 90 percent of the stored products in the building were not raised by the building owner.

Some examples of operations which are NOT farming:

- Horse riding stable: Business is riding, not raising horses.
- Horse boarding stable: Business is storing of horses not owned by the stable owner.
- Co-ops: Products have not been raised by the co-op. They have been raised by members of the co-op. The co-op doesn't own the farms.
- Commercial processors (Oreida, Green Giant, etc.): 90 percent of products were not raised by the processor.
- Seed dealers: Seed being sold was not raised by the dealer.
- Commercial grain storage: 90 percent of grain was not raised by the storage facility operator.
- Poultry processing: Poultry processed was raised by other farmers, not by the processor.
- Saw mills: Statutory definition excludes from farming.

Reference 361.02(3)(e) *Buildings and structures that are on a farm premises and used exclusively for farming purposes, provided any use of the building or structure by the public consists only of consumers directly receiving farm commodities, substantially all of which have been planted or produced on the farm premises. In this application, "substantially all" means at least 90 percent of the commodities were planted or produced on the farm premises.*

Farming basically involves the entire process from the cultivating of the soil through harvesting and processing to delivery to market or to the final consumer of farm products. The farm products involved, however, must have been raised on the farm premise by the owner. Processing or handling of farm products received from another farmer is not permitted under the farming definition.

Some common occupancies associated with farming deserve comment. A horse riding arena is commercial even if the horses are owned by the building owner if the public enters the building for recreation. The building can be a B-Business, A3 or A4-Assembly occupancy depending on the number of people. A produce stand or building, operated by a farmer, is farming and exempt provided the farmer has raised substantially all of the produce being sold. However, if the stand or building sells items not raised by the owner of the structure, it is commercial.

Question 1: A large sod farmer has, in conjunction with his sod business, a significant office building, storage and repair garages which are provided for the farm equipment and semi-trailer trucks used to deliver the sod nationwide, and warehouse buildings which are provided for the storage of the seed, fertilizer and harvested sod. The sod farmer handles and delivers only sod which is raised on his farm. Do the Dept. of Safety & Professional Services commercial building codes apply to any of the buildings on the farm?

Answer: No. Even though the farmer has many employees, buildings with occupancies which appear to be covered by the code, and an interstate trucking operation, the operation is considered farming and therefore exempt from code requirements.

Question 2: The same conditions are present as in the previous question, however, the farmer, in addition to handling sod grown on his farm, also handles sod from other sod farms. Do any of the Dept. of Safety & Professional codes apply?

Answer: Yes. Because the farmer is now handling products which he has not raised on his farm, the operation becomes commercial falling under the scope of the commercial building code. It is possible that some buildings could still be considered farming and exempt. A warehouse storing fertilizer and seed for use only on that farmer's farm would be farming and exempt. The office, delivery truck garage, and facilities for repairing those delivery trucks would be commercial as they are involved with the sod from another farm.

